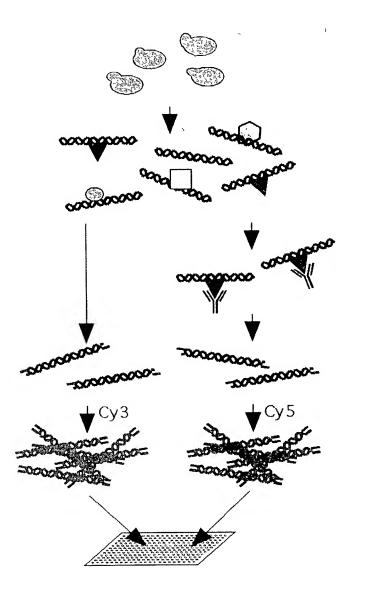
Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.



Crosslink protein to DNA in vivo with formaldehyde

Break open cells and shear DNA

Immunoprecipitate

Reverse-crosslinks, blunt DNA and ligate to unidirectional linkers

LM-PCR

Hybridize to array

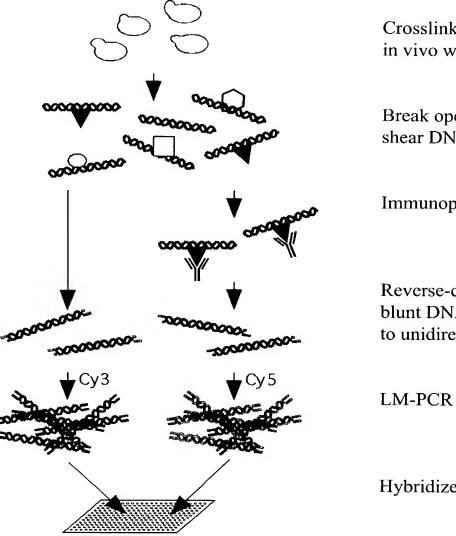




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FIGURE 1



Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

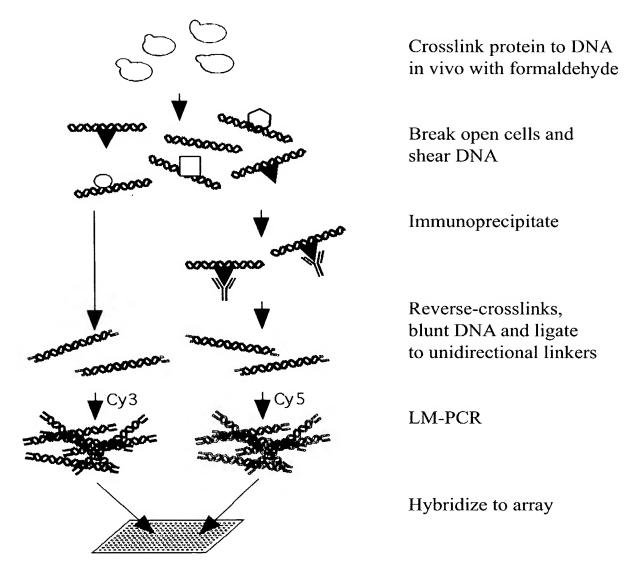


FIGURE 1



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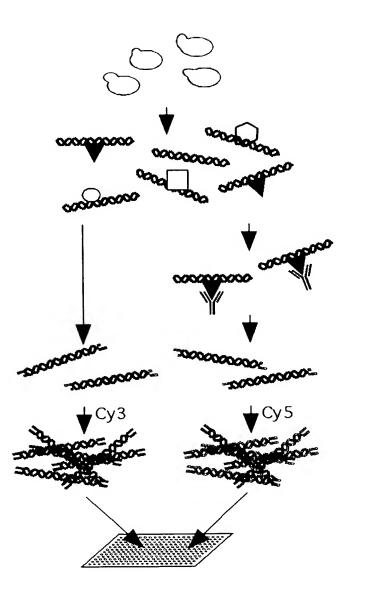
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FIGURE 1



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Title: Genome-Wide Location and Function...

Inventors:

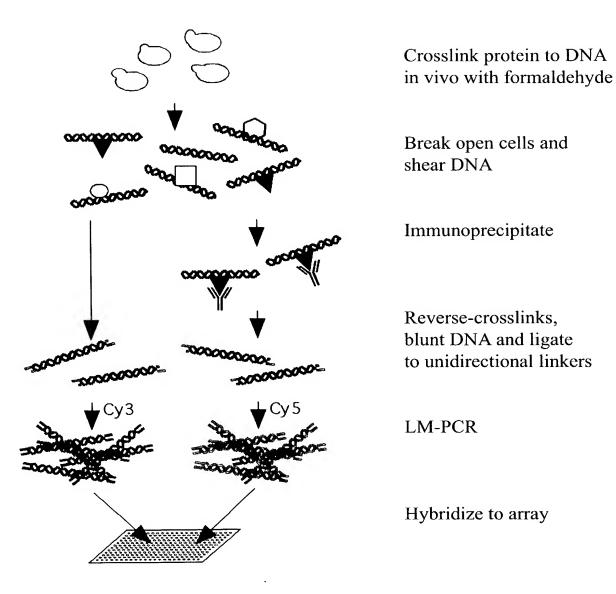


FIGURE 1



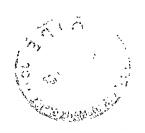
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App No.: 10/032,281

Title: Genome-Wide Location and Function...
Inventors: John Wyrick, et al.

Triplicate experiments	Scanning		Single-array error model	Weighted average
ChIP-1 →	Scan-1		Data-1	
ChIP-2 →	Scan-2		Data-2	Final data
ChIP-3 →	Scan-3		Data-3	

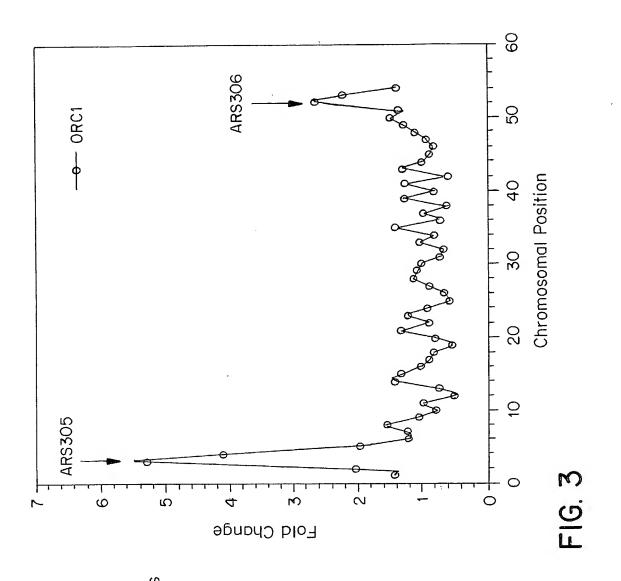
FIGURE 2



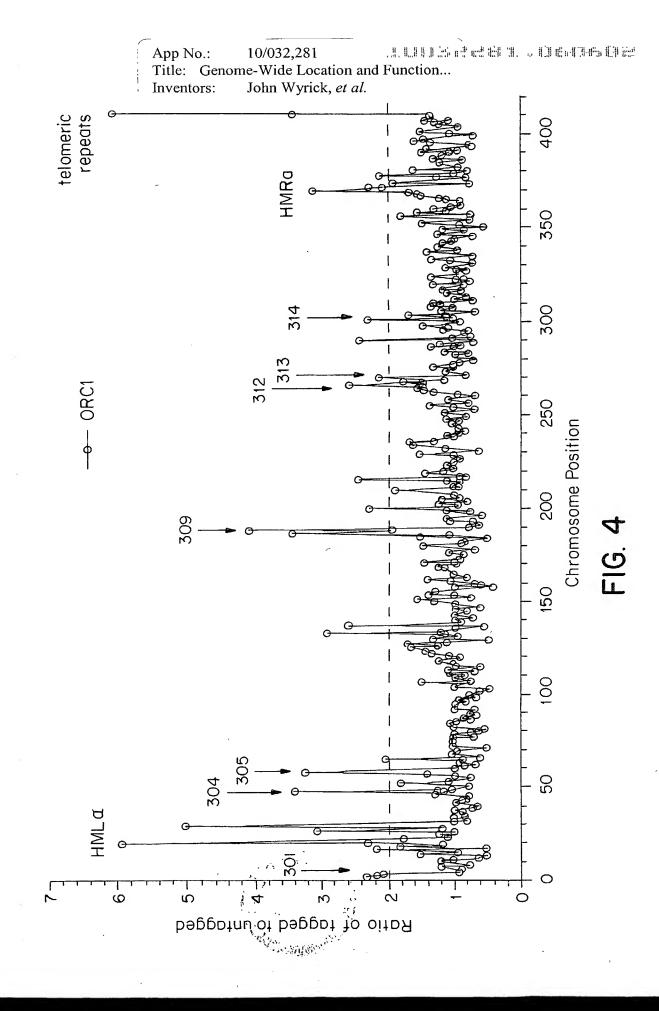
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App No.: 10/032,281 INTERESTRICT Title: Genome-Wide Location and Function...

John Wyrick, et al. Inventors:



General Transcription Factors SRB/Mediator Complex RNA Polymerase II SWI/SNF Complex SAGA SORC complex Interests:



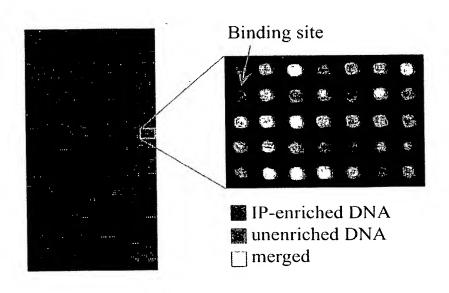
App No.:

10/032,281

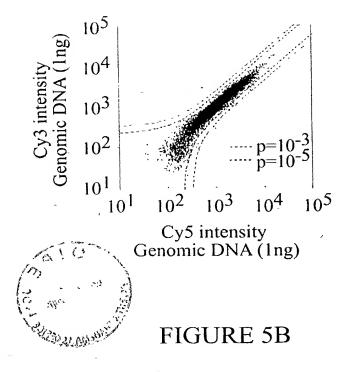
Augustus Libbinstin.

Title: Genome-Wide Location and Function...

Inventors:



FIGÚRE 5A



Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

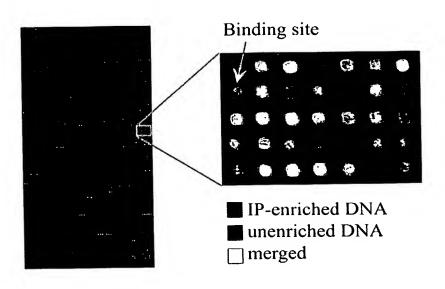


FIGURE 5A

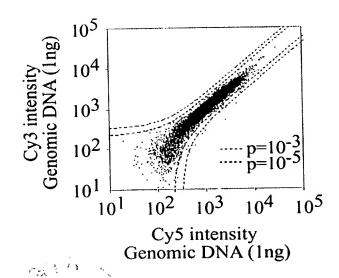


FIGURE 5B

App No.: 10/032,281

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

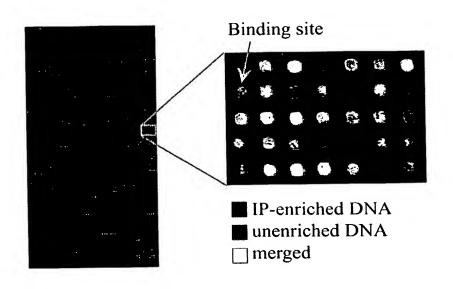
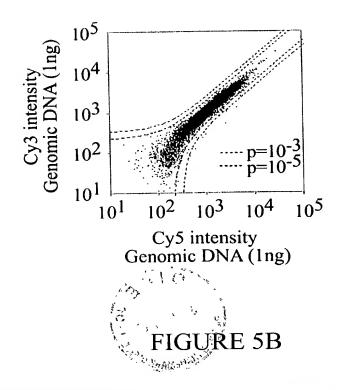


FIGURE 5A



John Wyrick, et al. Inventors:

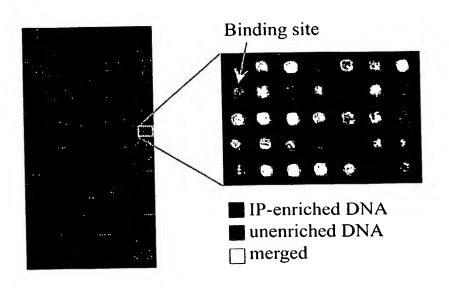
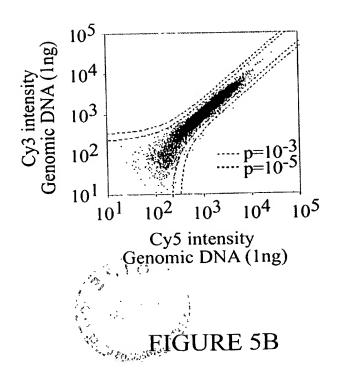


FIGURE 5A



së ë ka "usustë 10/032,281 App No.: Genome-Wide Location and Function... John Wyrick, et al. Drug-efflux pump involved in resistance to multiple drugs (adjacent to GAL3) Multicopy suppressor of the Gal(-) phenotype of snf1 mig1 srb8/10/11 cells Oyclin that associates with Pho85p, involved in glycogen accumulation Regulatory protein required for rapid induction of galactose pathway Zinc-finger protein required for transcriptional activation of CHA1 Vegative regulator for expression of galactose-induced genes Required for synthesis of the mannosylated sphingolipids Component of the anaphase-promoting complex (APC) Unknown function (share intergenic region with GAL3) Jnknown function (share intergenic region with GCY1) JDP-glucose--hexose-1-phosphate uridylyltransferase >5/1 3alactokinase, first step in galactose metabolism Ribosomal protein L4, Gene (adjacent to GAL3) Jnknown function, (adjacent to PCL10) Unknown function (adjacent_to GAL1) Jnknown function (adjacent to GAL3) Repressor of hexose transport genes Jracil permease (adjacent to GAL1) Salactose-induced oxidoreductase Pyridoxine phosphate oxidase RNA subunit of telomerase JDP-glucose 4-epimerase Jnknown function **FIGURE 6A** 1.5X10-09 1.3X10-07 2.4X10-07 2.4X10-06 2.8X10-06 9.1X10-06 6.4X10-10 1X10-06 1.1X10-06 2.0X10-06 9.8X10-06 3.5X10-10 1.5X10-09 4.3X10-08 8.8X10-06 1.2X10-10 3.5X10-10 4.8X10-10 1.2X10-07 1.2X10-07 1.3X10-07 3.4X10-07 7.0X10-07 % 1.3X10+00 1.8X10+00 .9X10+00 1.1X10+00 1X10+00 .9X10+00 .9X10+00 1.8X10+00 1.2X10+00 4.1X10-01 1.2X10+00 1.2X10+00 1.9X10+00 6.6X10-02 2.0X10+00 2.0X10+00 1.7X10-02 2.9X10-02 1.9X10-01 5.5X10-01 5.4X10-01 6.0X10-01 6.0X10-01 >3/1 6.0 6.0 /GL132W **rBR022W 7DR010C** /DR008C YJR044C **25.48** CHA4 GAL80 PC 10 SNQ2 APC9 GAL10 2862 PDX3 FUR4 6CY1 MH 1701 801 GAL3 GAL7 GAL 1 < 1:1</p>

Galactose permease

188.6

1.5X10-10

2.5X10-02

Ratio p-value Gal/Glu Description

Ratio p-value

Name

Glucose

(Gal/Glu)

Ratio

Galactose

Glucose

Expression

Binding

Genome-Wide Location and Function... John Wyrick, et_al. Multicopy suppressor of the Gal(-) phenotype of snf1 mig1 srb8/10/11 cells Drug-efflux pump involved in resistance to multiple drugs (adjacent to GAL3) Cyclin that associates with Pho85p, involved in glycogen accumulation Regulatory protein required for rapid induction of galactose pathway Zinc-finger protein required for transcriptional activation of CHA1 Negative regulator for expression of galactose-induced genes Required for synthesis of the mannosylated sphingolipids Component of the anaphase-promoting complex (APC) Unknown function (share intergenic region with GAL3) Unknown function (share intergenic region with GCY1) UDP-glucose-hexose-1-phosphate uridylyltransferase >5/1 Galactokinase, first step in galactose metabolism Ribosomal protein L4, Gene (adjacent to GAL3) Jnknown function, (adjacent to PCL10) Unknown function (adjacent to GAL1) Jnknown function (adjacent to GAL3) Repressor of hexose transport genes Uracil permease (adjacent to GAL1) Galactose-induced oxidoreductase Pyridoxine phosphate oxidase RNA subunit of telomerase UDP-glucose 4-epimerase Galactose permease Jnknown function Ratio p-value Gal/Glu Description **Expression** FIGURE 6A Ratio 4.6 18.8 271.3 1.5X10-10 9.1X10-06 2.4X10-06 2.8X10-06 9.8X10-06 3.5X10-10 6.4X10-10 1.3X10-07 1.2X10-07 1.1X10-06 1.1X10-06 2.0X10-06 4.8X10-10 1.5X10-09 2.4X10-07 8.8X10-06 1.2X10-10 3.5X10-10 .2X10-07 1.3X10-07 3.4X10-07 1.5X10-09 4.3X10-08 7.0X10-07 Galactose 7.8 7.8 4.6 .2X10+00 .1X10+00 1.1X10+00 .9X10+00 1.3X10+00 1.8X10+00 .9X10+00 .9X10+00 6.6X10-02 .9X10-01 1.8X10+00 1.2X10+00 .9X10+00 1.7X10-02 2.9X10-02 4.1X10-01 2.0X10+00 .2X10+00 Ratio p-value 2.0X10+00 5.5X10-01 2.5X10-02 5.4X10-01 6.0X10-01 6.0X10-01 Glucose 6.0 0.9 <u>~:</u> **/GL132W** rBR022W **7DR010C** YDR008C YJR044C Name **RPL4B** SNQ2 GAL10 GAL80 PCL 10 CHA4 APC9 **CSG2** FUR4 MH PDX3 GAL7 GAL1 6CY1 101 **등** GAL3 (GalGlu) Expression Galactose Glucose

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10/032,281

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10/032,281 App No.: trosciatia aprobati Genome-Wide Location and Function... John Wyrick, et al. Inventors: Multicopy suppressor of the Gal(-) phenotype of snf1 mig1 srb8/10/11 cells Drug-efflux pump involved in resistance to multiple drugs (adjacent to GAL3) Cyclin that associates with Pho85p, involved in glycogen accumulation Zinc-finger protein required for transcriptional activation of CHA1 Negative regulator for expression of galactose-induced genes Required for synthesis of the mannosylated sphingolipids Component of the anaphase-promoting complex (APC) Unknown function (share intergenic region with GAL3) Jnknown function (share intergenic region with GCY1) UDP-glucose-hexose-1-phosphate uridylyltransferase >5/1 Galactokinase, first step in galactose metabolism Ribosomal protein L4, Gene (adjacent to GAL3) Unknown function, (adjacent to PCL10) Unknown function (adjacent to GAL1) Unknown function (adjacent to GAL3) Repressor of hexose transport genes Uracil permease (adjacent to GAL1) Galactose-induced oxidoreductase Pyridoxine phosphate oxidase RNA subunit of telomerase JDP-qlucose 4-epimerase Jnknown function FIGURE 6A 18.8 4.6 271.3 9.1X10-06 9.8X10-06 1.1X10-06 2.0X10-06 2.4X10-06 2.8X10-06 1.2X10-10 1X10-06 6.4X10-10 1.3X10-07 2.4X10-07 3.5X10-10 4.8X10-10 .2X10-07 3.4X10-07 .5X10-09 .5X10-09 8.8X10-06 .2X10-07 1.3X10-07 4.3X10-08 7.0X10-07 4.6 1.1X10+00 1.3X10+00 1.8X10+00 .9X10+00 .9X10+00 .9X10+00 .2X10+00 .1X10+00 1.9X10+00 .2X10+00 1.8X10+00 1.7X10-02 6.6X10-02 1.9X10-01 4.1X10-01 .2X10+00 2.9X10-02 2.0X10+00 2.0X10+00 5.5X10-01 6.0X10-01 6,0X10-01 0.9 0.9 9.4 33

YBR022W

GAL80

ME.

2013

GAL 10

GAL7

FUR4 GCY1 YDR008C

YGL132W

CHA4

∠]::]

RPL48

YDR010C

APC9 CSG2

SN02

YJR044C

PDX3

<u>응</u>

Regulatory protein required for rapid induction of galactose pathway

Galactose permease

1.5X10-10

2.5X10-02 5.4X10-01

18.2

3.5X10-10

Ratio p-value Gal/Glu Description

Ratio p-value

Name

Expression (Gal/Glu)

> Glucose Galactose

Ratio

Galactose

Glucose

Expression

Binding

Genome-Wide Location and Function... John Wyrick, et al. Drug-efflux و pump involved in resistance to multiple drugs (adjacent to GAL3) Multicopy suppressor of the Gal(-) phenotype of snf1 mig1 srb8/10/11 cells Cyclin that associates with Pho85p, involved in glycogen accumulation Regulatory protein required for rapid induction of galactose pathway Zinc-finger protein required for transcriptional activation of CHA1 Vegative regulator for expression of galactose-induced genes Required for synthesis of the mannosylated sphingolipids Component of the anaphase-promoting complex (APC) Unknown function (share intergenic region with GAL3) Unknown function (share intergenic region with GCY1) JDP-glucose-hexose-1-phosphate uridylyltransferase >5/1 Salactokinase, first step in galactose metabolism Ribosomal protein L4, Gene (adjacent to GAL3) Jnknown function, (adjacent to PCL10) Unknown function (adjacent to GAL1) Unknown function (adjacent to GAL3) Repressor of hexose transport genes Jracil permease (adjacent to GAL1) Salactose-induced oxidoreductase Pyridoxine phosphate oxidase RNA subunit of telomerase UDP-qlucose 4-epimerase Galactose permease Jnknown function Ratio p-value Gal/Glu Description Expression **FIGURE 6A** 188.6 18.2 18.8 9 1.5X10-10 2.4X10-06 6.4X10-10 1.1X10-06 2.8X10-06 9.1X10-06 9.8X10-06 3.5X10-10 1.2X10-10 2.0X10-06 .5X10-09 .5X10-09 4.3X10-08 2.4X10-07 8.8X10-06 3.5X10-10 4.8X10-10 .2X10-07 .2X10-07 1.3X10-07 3.4X10-07 .1X10-06 7.0X10-07 1.3X10-07 Galactose 4.6 .2X10+00 .1X10+00 .9X10+00 .1X10+00 .9X10+00 .3X10+00 .8X10+00 .9X10+00 .8X10+00 .7X10-02 .9X10+00 Ratio p-value 2.0X10+00 2.0X10+00 .2X10+00 .2X10+00 5.5X10-01 2.9X10-02 6.6X10-02 .9X10-01 4.1X10-01 2.5X10-02 5.4X10-01 6.0X10-01 6.0X10-01 Glacose YGL132W **/BR022W** YJR044C **DR010C** YDR008C Name **GAL10** GAL80 RC 10 SN₀2 **P** CHA4 MH **PDX3** FUR4 GAL7 **£**23 1701 801 (Gal/Glu) **Expression** Binding Glucose STANGE OF STREET

10/032,281

John Wyrick, et al. Inventors: CAT5 UBP2 RIO1 YOR121C PFY1 LEO1 **YENI** AKEs AKEs LFCI GIZ3 bGW5 FIGURE 6B $QV\Gamma d$ bCF10 IHTM **CCAI** GAL80 GAL7 RPT5 GAL3 ı QAL1/10 Pellet Input RP031 Watson ORFs -Crick ORFs Gal4 binding Intergenic regions

App No.: 10/032,281 1.11132231 1.051512 Title: Genome-Wide Location and Function...

FIGURE 6C

App No.: 10/032,281 Title: Genome-Wide Location and Function... John Wyrick, et al. Inventors: CAT5 UBP2 RIO1 YOR121C PFY1 LEO1 **YENI** ₹ KKE LFC1 GIZ3 **b**CW5 FIGURE 6C FIGURE 6B $GV\Gamma$ bCF10 MLH1 GCKI GVF80 GVF1 **GAL3** GAL2 CAL1/10 Pellet Input RP031 Watson ORFs -Crick ORFs Gal4 binding Intergenic regions

App No.: 10/032,281 | STATE |
Title: Genome-Wide Location and Function... Inventors: John Wyrick, et al. CAT5 UBP2 RIOI YORIZIC PFYI LEOI ARNI ₹ KEE LFCI GI23 **b**CW5 FIGURE 6C FIGURE 6B $\text{CV} \forall$ bCF10 IHTM **CCXI** GAL80 GAL3 **GAL2** QAL1/10 Pellet Input **RPO31** Watson ORFs -Crick ORFs Gal4 binding Intergenic regions

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App No.: 10/032,281 FIFT SEEDS MINISTER Title: Genome-Wide Location and Function... John Wyrick, et al. Inventors: CATS UBP2 RIO1 YOR121C PFY1 LEO1 ARNI ₹ KKE2 LLCI CI23 **b**CW5 FIGURE 6C FIGURE 6B $\mathsf{G}\mathsf{V}\mathsf{\Gamma}\mathsf{t}$ PCL10 MTH1 GEKI GYF80 **CAL**7 **GAL3** GAL2 QAL1/10 Pellet Input **RPO31** Watson ORFs -Crick ORFs Gal4 binding Intergenic regions

App No.: 10/032,281 21555551. Title: Genome-Wide Location and Function...
Inventors: John Wyrick, et al.

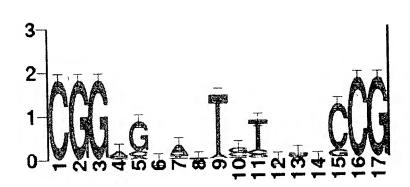


FIGURE 6D



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Inventors:

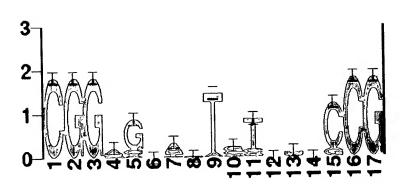


FIGURE 6D



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App No.: 10/032,281 Inventors: John Wyrick, et al.

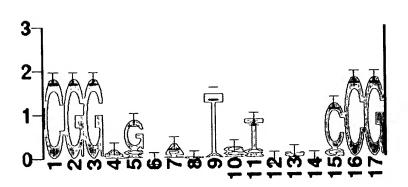


FIGURE 6D



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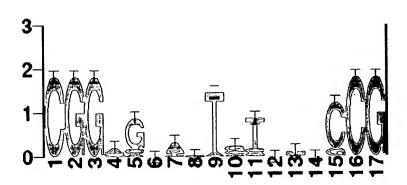


FIGURE 6D



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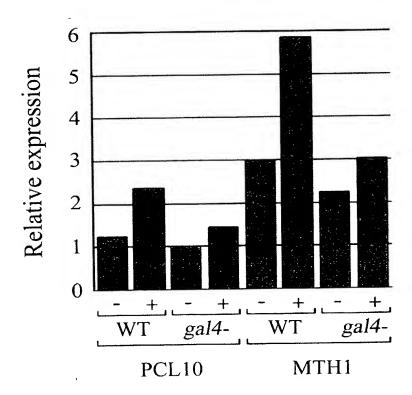


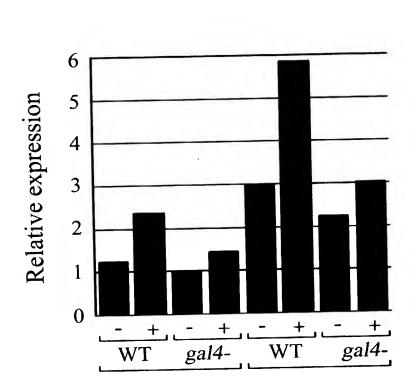
FIGURE 6E



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App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.



PCL10

FIGURE 6E

MTH1



App No.: 10/032,281

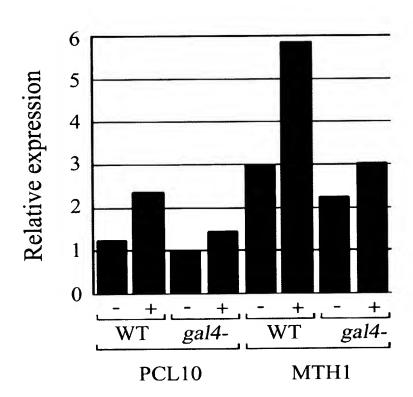


FIGURE 6E



App No.: 10/032,281 Title: Genome-Wide Location and Function... TODESCIEST LOSDEDE

Inventors: John Wyrick, et al.

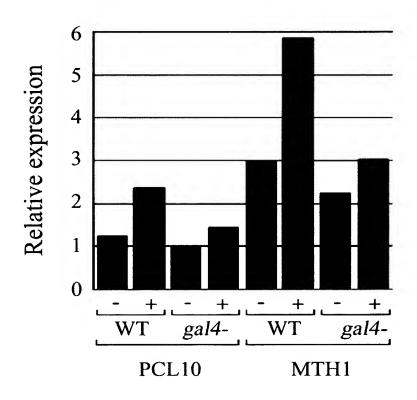


FIGURE 6E



Inventors:

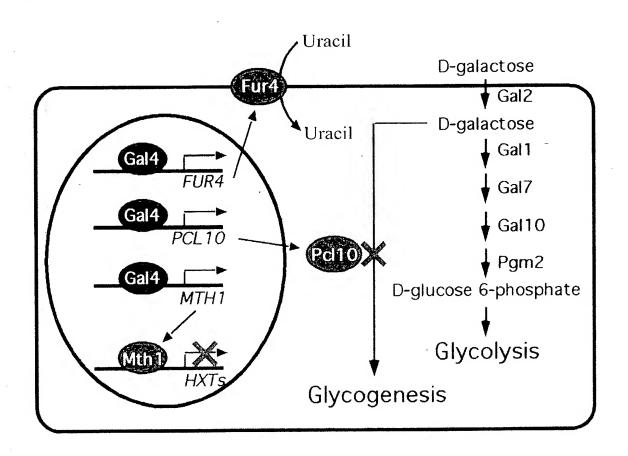


FIGURE 6F



App No.: 10/032,281 ELLISTED TO CONTROL Title: Genome-Wide Location and Function...

John Wyrick, et al. Inventors:

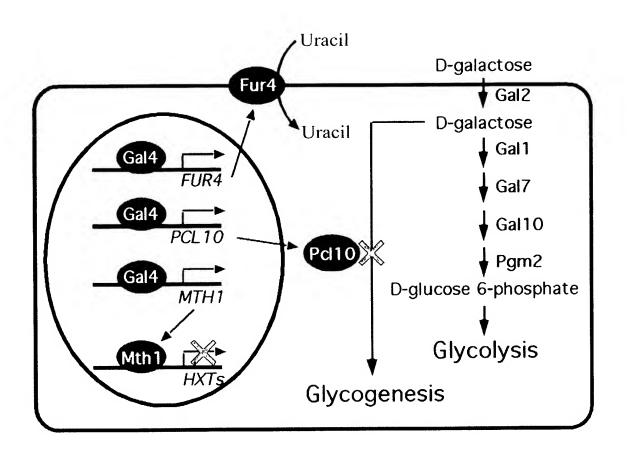


FIGURE 6F



Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

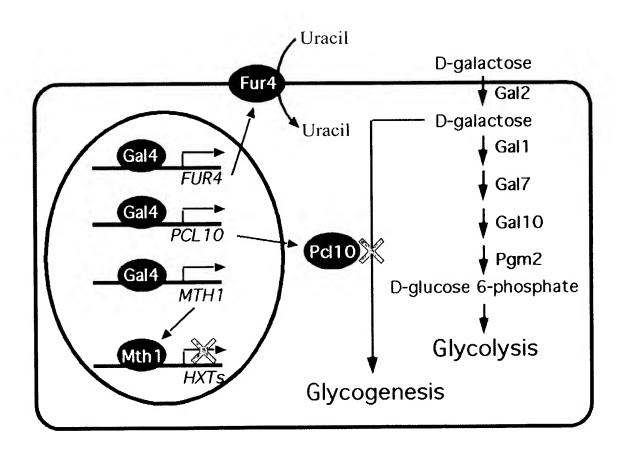


FIGURE 6F



App No.: 10/032,281 11/05 Extension 10/032,281

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

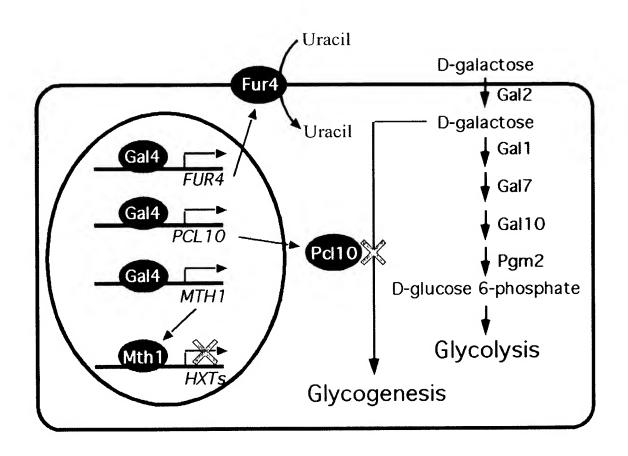
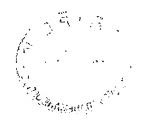


FIGURE 6F



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App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors:

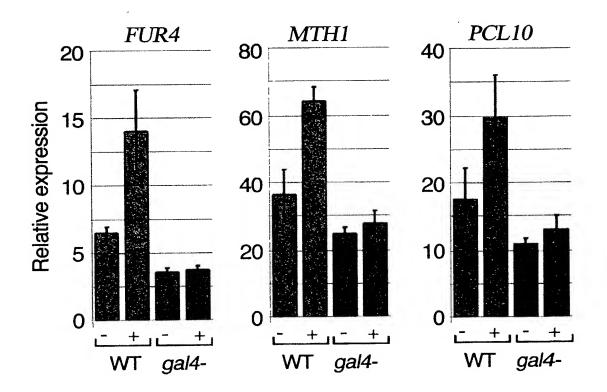


FIGURE 6G



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App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors:

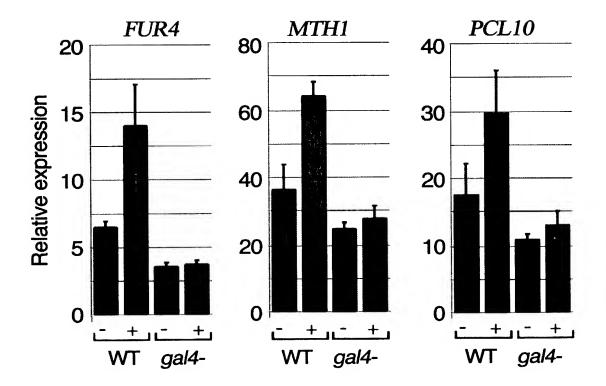


FIGURE 6G



App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

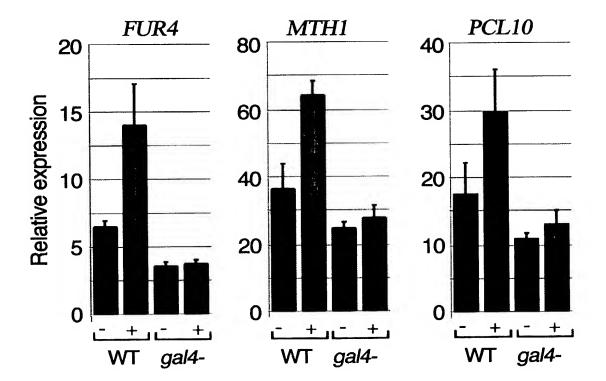


FIGURE 6G



App No.: 10/032,281 Title: Genome-Wide Location and Function... TIBLESTEL OF CACE

Inventors: John Wyrick, et al.

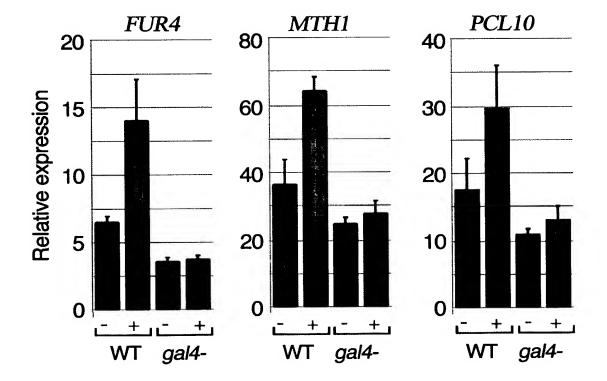


FIGURE 6G



App No.: 10/032,281 Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

		Description	Pheromone-regulated membrane protein	C-14 sterol reductase	Cyclin partly in association with Pho85p	Protein involved in mating induction	Transcription factor required for mating	Protein required for cell fusion during mating	Required for cell division and homotypic membrane fusion	Protein involved in growth regulation	MAPK mediating mating pheromone signaling	Receptor for vacuolar sorting of soluble vacuolar proteins	Homoserine O-acetyltransferase	Protein of unknown function	Protein involved in the aging process	Protein involved in morphogenesis of the mating projection	Putative effector of Cdc42p, important for bud emergence	Protein of unknown function	Protein involved in regulation of starch metabolism	Protein of unknown function	Chitin synthase I, functions during cell separation	Serine/threonine protein kinase that is activated by cAMP		>10/1 5/1 2/1 1:1 1/2 1/5 <1/10	
.0	after	p-value	4.5E-05	4.5E-05	5.8E-05	9.5E-05	3.1E-04	5.6E-04	1.0E-03	1.5E-03	2.0E-03	2.0E-03	3.2E-03	1.0E-04	1.0E-04	1.0E-04	1.2E-04	1.4E-04	1.8E-04	4.1E-04	4.2E-04	4.5E-04		>10/1	
ing	af	ratio	6.2	6.2	6.8	5,6	4.1	4.1	4.6	3.2	5.4	5.4	2.8	5.2	5.2	5,1	5.0	4.8	4.9	3.9	4	4.2			1
Binding	before	ratio p-value ratio p-value	7 1.3E-04	7 1.3E-04	3 4.2E-05	6 2.2E-04	1 1.4E-06	0 2.8E-07	9 1.5E-04	4 5.6E-04	3 3.9E-05	3 3.9E-05	1 4.8E-03	7 1.0E+00	1.7 2.9E-02	.0 8.6E-01	.4 1.1E-01	.9 7.6E-03	.0 8.1E-01	.1 7.0E-01	0.9 1.0E+00	I.3 2.1E-01	- 1865	2/1 <1:1	
	ا م	ratić	2	<u>'</u>	'n	2.6	4.	5.0	2.9	70 2.4	3.3	3,3	2.	90 0.7	,	<u>-</u> -	<u>-</u>		A-m-		O.	<u>-</u>		3/1	
Name	10 + V	Stell	PRM1	ERG24	PCL2	FIG2	STE12	FUS1	CDC48	YCR027C	FUS3	PEP1	MET2	YOR129C	UHHI	AFR1	GICZ	YNR046W	MSS11	YOR343C	CHS1	SCF3		4/1	
Binding Expression	V	a-150 a-					Y		TANKS TO THE TANKS															>5/1	
Binding		befo after													eger gerag land						W.	mas en	din din		

10/032,281 App No.: tim Stata to Incline Genome-Wide Location and Function... Title: Inventors: John Wyrick, et al. Putative effector of Cdc42p, important for bud emergence Protein involved in morphogenesis of the mating projection Serine/threonine protein kinase that is activated by cAMP Receptor for vacuolar sorting of soluble vacuolar proteins Required for cell division and homotypic membrane fusion Protein involved in regulation of starch metabolism Chitin synthase I, functions during cell separation MAPK mediating mating pheromone signaling Protein required for cell fusion during mating 1/5 < 1/10Pheromone-regulated membrane protein ranscription factor required for mating Syclin partly in association with Pho85p Protein involved in the aging process Protein involved in growth regulation Protein involved in mating induction Homoserine O-acetyltransferase Protein of unknown function Protein of unknown function Protein of unknown function 2/1 1:1 1/2 C-14 sterol reductase >10/1 5/1 4.5E-04 9.5E-05 1.0E-03 1.5E-03 2.0E-03 2.0E-03 3.2E-03 1.0E-04 5.6E-04 1.0E-04 .2E-04

1.0E+00

YOR129C

WET2

2.9E-02

E **AFR1**

8.6E-01

1.1E-01

3.9E-05 4.8E-03

3.9E-05

E

2.4

YCR027C

CDC48

STE12

FUS1

Description

ratio p-value ratio p-value

26:12 ∆ + (26:12 0 +

after before 1.35-04

1.3E-04

2.2E-04 1.4E-06 2.8E-07 1.5E-04 5.6E-04

FIG2

4.2E-05

after

before

Binding

Name

Binding Expression

FIGURE 7A

2/1 <1:1

3/1

4/1

>5/1

1.0E+00

6.0

2.1E-01

7.0E-01

YOR343C

8.1E-01

MSS11

7.6E-03

rNR046W

App No.: 10/032,281

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

		Description	Pheromone-regulated membrane protein	C-14 sterol reductase	Cyclin partly in association with Pho85p	Protein involved in mating induction	Transcription factor required for mating	Protein required for cell fusion during mating	Required for cell division and homotypic membrane fusion	Protein involved in growth regulation	MAPK mediating mating pheromone signaling	Receptor for vacuolar sorting of soluble vacuolar proteins	Homoserine O-acetyltransferase	Protein of unknown function	Protein involved in the aging process	Protein involved in morphogenesis of the mating projection	Putative effector of Cdc42p, important for bud emergence	Protein of unknown function	Protein involved in regulation of starch metabolism	Protein of unknown function	Chitin synthase I, functions during cell separation	Serine/threonine protein kinase that is activated by cAMP	5/1 2/1 1:1 1/2 1/5 <1/10
	after	p-value	4.SE-05	4.5E-05	5.8E-05	9.5E-05	3.1E-04	5.6E-04	1.0E-03	1.5E-03	2.0E-03	2.0E-03	3.2E-03	1.0E-04	1.0E-04	1.0E-04	1.2E-04	1.4E-04	1.8E-04	4.1E-04	4.2E-04	4.5E-04	>10/1 5/1
ing	8	ratio	6.2	6.2	6.8	5.6	4.1	4.1	4.6	3.2	5.4	5.4	2.8	5.2	5.2	5.1	5.0	4.8	4.9	3.9	4.1	4.2	
Binding	before	ratio p-value ratio p-value	2.7 1.3E-04	2.7 1.3E-04	3.3 4.2E-05	2.6 2.2E-04	4.1 1.4E-06	5.0 2.8E-07	2.9 1.5E-04	2.4 5.6E-04	3.3 3.9E-05	3.3 3.9E-05	2.1 4.8E-03	0.7 1.0E+00	1.7 2.9E-02	1.0 8.6E-01	1.4 1.1E-01	1.9 7.6E-03	1.0 8.1E-01	1.1 7.0E-01	0.9 1.0E+00	1.3 2.1E-01	
Name .			PRM1	ERG24	PCL2	FIG2	STE12	FUS1	CDC48	YCR027C	FUS3	PEP1	MET2	YOR129C	UH1	AFR1	CIC2	YNR046W	MSS11	YOR343C	CHS1	SC SC SC SC SC SC SC SC SC SC Sc Sc Sc Sc Sc Sc Sc Sc Sc Sc Sc Sc Sc	4/1 3/1
Binding Expression 1), (e12 \D + \D	a-30; a-30; a-50; a-50; a-50; a-120						,															>5/1
Binding	J	befo after a.0-p																	leng		Sala I		

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App No.: 10/032,281 Title: Genome-Wide Location and Function...
Inventors: John Wyrick, et al.

		Description	Pheromone-regulated membrane protein	C-14 sterol reductase	Cyclin partly in association with Pho85p	Protein involved in mating induction	Transcription factor required for mating	Protein required for cell fusion during mating	Required for cell division and homotypic membrane fusion	Protein involved in growth regulation	MAPK mediating mating pheromone signaling	Receptor for vacuolar sorting of soluble vacuolar proteins	Homoserine O-acetyltransferase	Protein of unknown function	Protein involved in the aging process	Protein involved in morphogenesis of the mating projection	Putative effector of Cdc42p, important for bud emergence	Protein of unknown function	Protein involved in regulation of starch metabolism	Protein of unknown function	Chitin synthase I, functions during cell separation	Serine/threonine protein kinase that is activated by cAMP	>10/1 5/1 2/1 1:1 1/2 1/5 <1/10
	after	ratio p-value			5.8E-05	9.5E-05	3.1E-04	5.6E-04	1.0E-03	1.5E-03	2.0E-03	2.0E-03	3.2E-03	1.0E-04	•	1.0E-04	_	1.4E-04	1.8E-04	4.1E-04	4.2E-04	4.5E-04	>10/1
ing			6.2	6.2	6.8	5.6	4.1	4.1	4.6	3.2	5.4	5.4	2.8	5.5	5.2	5.1	5.0	4.8	4.9	3.9	4.1	4.2	
Binding	before	ratio p-value	2.7 1.3E-04	2.7 1.3E-04	3.3 4.2E-05	2.6 2.2E-04	4.1 1.4E-06	5.0 2.8E-07	2.9 1.5E-04	2.4 5.6E-04	3.3 3.9E-05		2.1 4.8E-03	0.7 1.0E+00	1.7 2.9E-02	1.0 8.6E-01	1.4 1.1E-01	6:	1.0 8.1E-01	1.1 7.0E-01	0.9 1.0E+00	1.3 2.1E-01	2/1 <1:1
Name	215		PRM1	ERG24	PCL2	FIG2	STE12	FUS1	CDC48	YCR027C	FUS3	PEP1	MET2	YOR129C	IHI IHI	AFR1	GC2	YNR046W	MSS11	YOR343C	CHS1	SCH3	4/1 3/1
Binding Expression	, te12 Δ Δ + α	a-15' a-30' a-60' a-60' a-45' a-45' a-120 a-120 a-120			mark and a second												,						>5/1
Bindin	J	oled offe					The state of the s	. 9									3		10.	0.00	vi vi Min		

rounded a carrona

		Description	Membrane protein required for homotypic nuclear fusion	Protein of unknown function	Protein of unknown function	Protein of the spindle pole body	Moderately similarto mammalian neutral sphingomyelinases	Protein of unknown function	Phosphoglucomutase	Protein of unknown function	Protein of unknown function	a-Agglutinin anchor subunit	Similar to S. cerevisiae glucan 1,4-alpha-glucosidase	Synaptobrevin (v-SNARE) homolog	Involved in spindle formation and karyogamy	Involved in cell cycle arrest for mating	CDK inhibitor for Pho80p-Pho85p complex	Similar to Rhodobacter capsulatus bchO protein	Protein with similarity to Aspergillus nidulans hymA	Protein required for efficient mating	1, 2/1 1,1 1,1 1/2	7/1 1:1 1/7	В
	after	tio p-value	3.8 4.7E-04	3.8 5.1E-04	3.6 6.5E-04	4.1 6.6E-04	4.1 6.6E-04	3.6 7.1E-04	3.8 7.2E-04	3.4 8.2E-04	3.3 1.2E-03	3.1 1.9E-03	3.0 2.1E-03	3.0 2.2E-03	3.0 2.2E-03	3.0 2.4E-03	2.9 2.7E-03	2.7 4.5E-03	2.7 4.9E-03	2.9 5.0E-03	7 1/01/	>10/1 3/1	FIGURE 7B
Binding	before	ratio p-value ratio p-value	1.2 3.7E-01	1.0E-01	0.9 1.0E+00	1.3 2.0E-01	1.3 2.0E-01	1.0 6.7E-01	2.0 6.1E-03		1.6 7.2E-02	1.4 1.1E-01	• -	0.9 1.0E+00	0.9 1.0E+00	1.3 2.2E-01			1.4 1.8E-01	1.2 3.8E-01		1:1> 1/7	臣
Name			KARS	YER048W-A	YPL192C	SPC25	YER019W	YIL083C	PGM1	YIL037C	YIL169C	AGA1	YOL155C	VIII	S	FAR1	PH081	YNR064C	HYM1	FIG1		4/1 3/1	
Binding Expression	~.∑	x-12, x-30, x-30, x-30, x-30, x-30, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-12, x-20, x-20, x-20, x-30,			The second secon										· · · · · · · · · · · · · · · · · · ·							>5/1	
Binding	Э.	befor after										, T.			L.C.				SW30				

Genome-Wide Location and Function.. John Wyrick, et al. Similar to S. cerevisiae glucan 1,4-alpha-glucosidase Protein with similarity to Aspergillus nidulans hymA Similar to Rhodobacter capsulatus bchO protein involved in spindle formation and karyogamy CDK inhibitor for Pho80p-Pho85p complex Involved in cell cycle arrest for mating 2/1 1:1 1/2 1/5 <1/10 Protein required for efficient mating Synaptobrevin (v-SNARE) homolog Protein of unknown function a-Agglutinin anchor subunit >10/1 5/1 FIGURE 7B 2.2E-03 2.4E-03 2.7E-03 4.5E-03 4.9E-03 2.1E-03 2.2E-03 5.0E-03 1.2E-03 .9E-03 1.0E+00 1.0E+00 7.4E-02 1.8E-01 2.2E-01 7.2E-02 7.3E-01 3.8E-01 .1E-01 !:| 2/1 3/1 YOL 155C YNR064C **YIL169C** 4/1

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Moderately similarto mammalian neutral sphingomyelinases Membrane protein required for homotypic nuclear fusion Protein of the spindle pole body Protein of unknown function Protein of unknown function Protein of unknown function Protein of unknown function Phosphoglucomutase Phosphoglucom 6.5E-04 5.1E-04 7.1E-04 6.6E-04 6.6E-04 7.2E-04 8.2E-04 1.0E+00 6.1E-03 2.0E-01 2.0E-01 6.7E-01 5.5E-01 (ER048W-A 1.5 PL192C **FER019W** YIL083C YIL037C **SPC25** PGM1 Gal:Ste12 Ste12 A Ste12 A + a-30, a-12,

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Inventors:

Title:

Description

ratio p-value ratio p-value

α-0, after

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Binding

Name

Binding Expression

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Genome-Wide Location and Function... Title: John Wyrick, et al. Inventors: Moderately similarto mammalian neutral sphingomyelinases Membrane protein required for homotypic nuclear fusion Similar to S. cerevisiae glucan 1,4-alpha-glucosidase Protein with similarity to Aspergillus nidulans hymA Similar to Rhodobacter capsulatus bchO protein nvolved in spindle formation and karyogamy CDK inhibitor for Pho80p-Pho85p complex involved in cell cycle arrest for mating 1/5 <1/10 Protein required for efficient mating Synaptobrevin (v-SNARE) homolog Protein of the spindle pole body Protein of unknown function a-Agglutinin anchor subunit Phosphoglucomutase 2/1 1:1 1/2 Description >10/1 5/1 4.5E-03 4.9E-03 5.0E-03 2.4E-03 2.2E-03 2.7E-03 7.2E-04 1.9E-03 2.1E-03 4.7E-04 5.1E-04 6.5E-04 6.6E-04 6.6E-04 7.1E-04 8.2E-04 1.2E-03 2.2E-03 ratio p-value ratio p-value after Binding 1.0E+00 1.0E+00 1.0E+00 7.4E-02 2.2E-01 8.3E-01 1.8E-01 3.8E-01 7.2E-02 7.3E-01 2.0E-01 6.1E-03 5.5E-01 1.1E-01 2.0E-01 6.7E-01 before 2/1 YER048W-A 1.5 3/1 YER019W YOL 155C YNR064C YPL 192C YIL083C **YIL037C YIL169C** Name PE081 AGA1 <u>S</u> 4/1 Gal:Ste12 Ste12 A Ste12 A + Expression Binding α -0, after Magagara. The state of 44; petore

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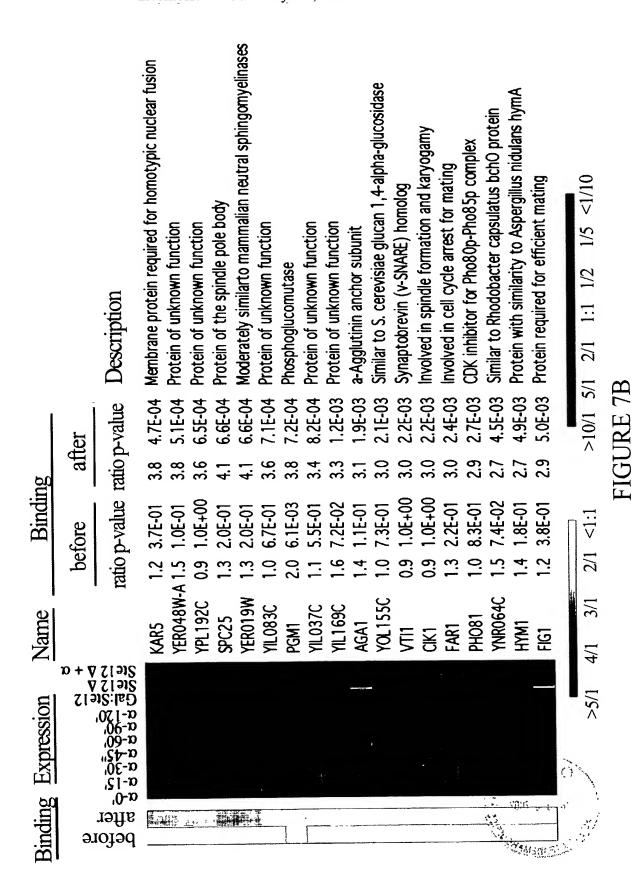
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FIGURE 7B

App No.: 10/032,281 10/03 2,281 10/03 2,281

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.



John Wyrick, et al. Inventors: Multicopy suppressor of sec1; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YDRWsigma5 Protein of unknown function; adjacent to Ty element YNLWsigma2 Protein of unknown function; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YGLCsigma3 Protein of unknown function; adjacent to Ty element YDRCdelta9 Similar to chicken nucleolin; adjacent to Ty element YNRWsigma4 4.1 6.5E-04 Homolog to 14-3-3 protein; adjacent to Ty element YDRCdelta9 Similar to Mei4p and to CREB proteins; adjacent to YIL037C Flavohemoglobin of unknown function; adjacent to PHO8 Similar to Zinc metalloproteinases; adjacent to YOL155C Unknown function; adjacent to Ty element YNRW sigma4 major constituent of the cell wall containing GPI-anchor Component of Pab1p-stimulated poly(A) ribonuclease Cell wall protein; adjacent to TY element YGRWdelta31 Protein of unknown function; adjacent to CWP2 >10/1 5/1 2/1 1:1 1/2 1/5 <1/10 Serine dehydratase; adjacent to YIL169C Basic helix-loop-helix transcription factor Protein of unknown function Description ratio p-value 3.6E-03 3.6E-03 1.9E-032.1E-03 2.1E-03 2.7E-03 3.5E-03 2.6E-04 1.7E-03 1.7E-04 2.9E-04 4.6E-04 4.7E-04 5.1E-04 8.2E-04 1.1E-03 1.2E-03 4.9E-04 after Binding 3.9 3.9 3.4 ratio p-value 1.0E+00 6.5E-02 3.2E-03 9.2E-03 7.3E-01 1.5E-02 1.5E-02 2.4E-02 9.7E-03 1.8E-02 1.4E-02 2.0E-02 .3E-02 .2E-02 4.2E-01 3.6E-01 5.7E-01 8.3E-01 5.5E-01 before 2/1 The second state of the second 3/1 YDR100W YOL 154W Name YNR048W YGL050W **YDR281C** YNL043C YKL097C YGR189C YNR053C **YNR051C** YIL036W NR067C CWP2 PAN3 S 4/1 a-0 a-15' a-30' a-45'' a-45'' a-120' a-120' a-120' a-120' a-120' a-120' a-120' >5/1 Binding Expression 10-x after

App No.:

Title:

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FIGURE 7C

John Wyrick, et al. Inventors: Multicopy suppressor of sec1; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YDRWsigma5 Protein of unknown function; adjacent to Ty element YNLWsigma2 Protein of unknown function; adjacent to Ty element YGLCsigma3 Protein of unknown function; adjacent to Ty element YDRCdelta9 Similar to chicken nucleolin; adjacent to Ty element YNRWsigma4 4.1 6.5E-04 Homolog to 14-3-3 protein; adjacent to Ty element YDRCdelta9 Similar to Mei4p and to CREB proteins; adjacent to YIL037C Flavohemoglobin of unknown function; adjacent to PHO81 Similar to Zinc metalloproteinases; adjacent to YOL155C Unknown function; adjacent to Ty element YNRWsigma4 major constituent of the cell wall containing GPI-anchor Cell wall protein; adjacent to TY element YGRWdelta31 Component of Pab1p-stimulated poly(A) ribonuclease Protein of unknown function; adjacent to CWP2 >10/1 5/1 2/1 1:1 1/2 1/5 <1/10 Serine dehydratase; adjacent to YIL169C Basic helix-loop-helix transcription factor Protein of unknown function Description ratio p-value ratio p-value 2.6E-04 3.6E-03 1.7E-04 1.1E-03 1.2E-03 1.7E-03 1.9E-032.1E-03 2.1E-03 2.7E-03 3.5E-03 2.9E-04 8.2E-04 3.6E-03 4.6E-04 after <u>...</u> 6.5E-02 2.4E-02 1.0E+00 1.5E-02 9.7E-03 1.3E-02 7.2E-02 4.2E-01 3.6E-01 8.3E-01 1.4E-02 9.2E-03 2.0E-02 5.7E-01 1.8E-02 7.3E-01 before 2/1 YOL154W 1.0 ئ **rNR048W** YDR100W Name YNL043C YKL097C YGL050W YDR281C YNR067C YNR053C **YNR051C** YGR189C YIL036W CWP2 a-90° a-120° Ge12 ∆ Ste12 ∆ Ste12 ∆ Binding Expression α-0, Ó pefore after **15**

App No.: Title: G

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Genome-Wide Location and Function...

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URE 7C

John Wyrick, et al. Inventors: Multicopy suppressor of sec1; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YDRWsigma5 Protein of unknown function; adjacent to Ty element YNLWsigma2 Protein of unknown function; adjacent to Ty element YGLCsigma3 Protein of unknown function; adjacent to Ty element YDRCdelta9 Similar to chicken nucleolin; adjacent to Ty element YNRWsigma4 4.1 6.5E-04 Homolog to 14-3-3 protein; adjacent to Ty element YDRCdelta9 Similar to Mei4p and to CREB proteins; adjacent to YIL037C Flavohemoglobin of unknown function; adjacent to PHO81 Similar to Zinc metalloproteinases; adjacent to YOL155C Unknown function; adjacent to Ty element YNRWsigma4 major constituent of the cell wall containing GPI-anchor Cell wall protein; adjacent to TY element YGRWdelta31 Component of Pab1p-stimulated poly(A) ribonuclease Protein of unknown function; adjacent to CWP2 >10/1 5/1 2/1 1:1 1/2 1/5 <1/10 Serine dehydratase; adjacent to YIL169C Basic helix-loop-helix transcription factor Protein of unknown function Description ratio p-value ratio p-value 1.2E-03 1.9E-032.1E-03 2.1E-03 2.7E-03 3.5E-03 2.9E-04 5.1E-04 1.1E-03 1.7E-03 3.6E-03 3.6E-03 1.7E-04 4.9E-04 8.2E-04 2.6E-04 4.7E-04 4.6E-04 after \ \ !:! 1.05+00 6.5E-02 1.5E-02 2.4E-02 8.3E-01 9.7E-03 9.2E-03 4.2E-01 5.7E-01 .4E-02 2.0E-02 1.3E-02 7.2E-02 3.6E-01 .8E-02 5.5E-01 rol.154W 1.0 7.3E-01 before 2/1 9 **TDR100W 1.1** YNR048W YGL050W **INL043C** YKL097C Name YNR067C YDR281C YNR051C rNR053C YGR189C YIL036W Gal:Ste 12 Ste 12 A Ste 12 A + Binding Expression α -0, after petore

FIGURE 7C

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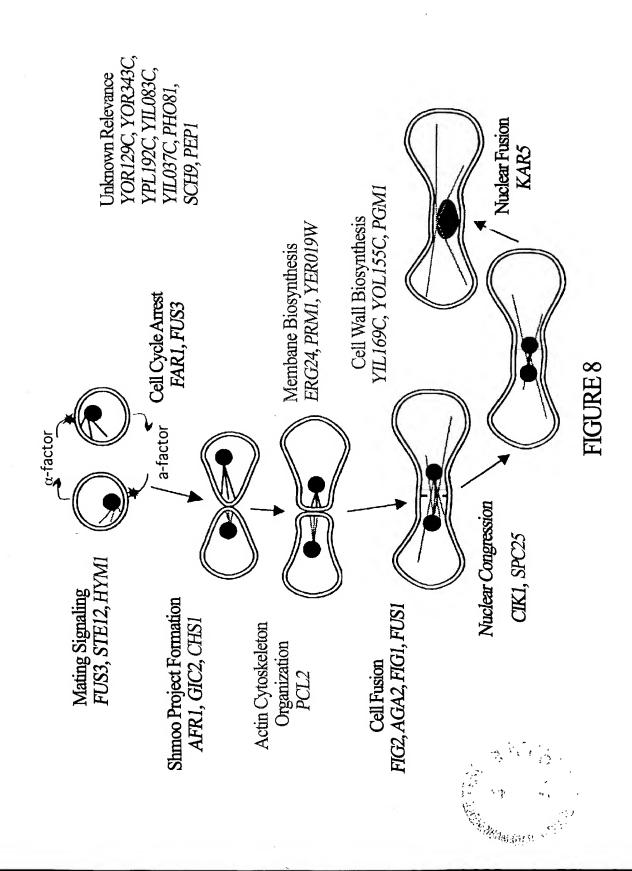
Genome-Wide Location and Function...

App No.: Title: G Genome-Wide Location and Function... Inventors: John Wyrick, et al. Multicopy suppressor of sec1; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YNRWsigma4 Protein of unknown function; adjacent to Ty element YDRWsigma5 Protein of unknown function; adjacent to Ty element YNLWsigma2 Protein of unknown function; adjacent to Ty element YGLCsigma3 Protein of unknown function; adjacent to Ty element YDRCdelta9 Similar to chicken nucleolin; adjacent to Ty element YNRWsigma4 4.1 6.5E-04 Homolog to 14-3-3 protein; adjacent to Ty element YDRCdelta9 Similar to Mei4p and to CREB proteins; adjacent to YIL037C Flavohemoglobin of unknown function; adjacent to PHO81 Unknown function; adjacent to Ty element YNRWsigma4 Similar to Zinc metalloproteinases; adjacent to YOL155C major constituent of the cell wall containing GPI-anchor Cell wall protein; adjacent to TY element YGRWdelta31 Component of Pab1p-stimulated poly(A) ribonuclease Protein of unknown function; adjacent to CWP2 >10/1 5/1 2/1 1:1 1/2 1/5 <1/10 Serine dehydratase; adjacent to YIL169C Basic helix-loop-helix transcription factor Protein of unknown function Description FIGURE 7C ratio p-value ratio p-value 2.6E-04 1.7E-04 1.1E-03 1.7E-03 1.9E-03 2.1E-03 2.1E-03 2.7E-03 3.5E-03 3.6E-03 3.6E-03 2.9E-04 8.2E-04 1.2E-03 after 2/1 <1:1 1.0E+00 2.4E-02 6.5E-02 1.5E-02 9.7E-03 7.2E-02 8.3E-01 1.4E-02 9.2E-03 2.0E-02 1.3E-02 4.2E-01 3.6E-01 5.7E-01 7.3E-01 .8E-02 5.5E-01 before YOL154W 1.0 တ ∞. YDR100W 1.1 **NR048W** YKL097C Name YGL050W YNR067C YNL043C YNR051C YDR281C YNR053C YGR189C **71L036W** CWP2 4/1 α-90' α-120' Gal:Ste12 Ste12 Δ Ste12 Δ Binding Expression α -0, before after

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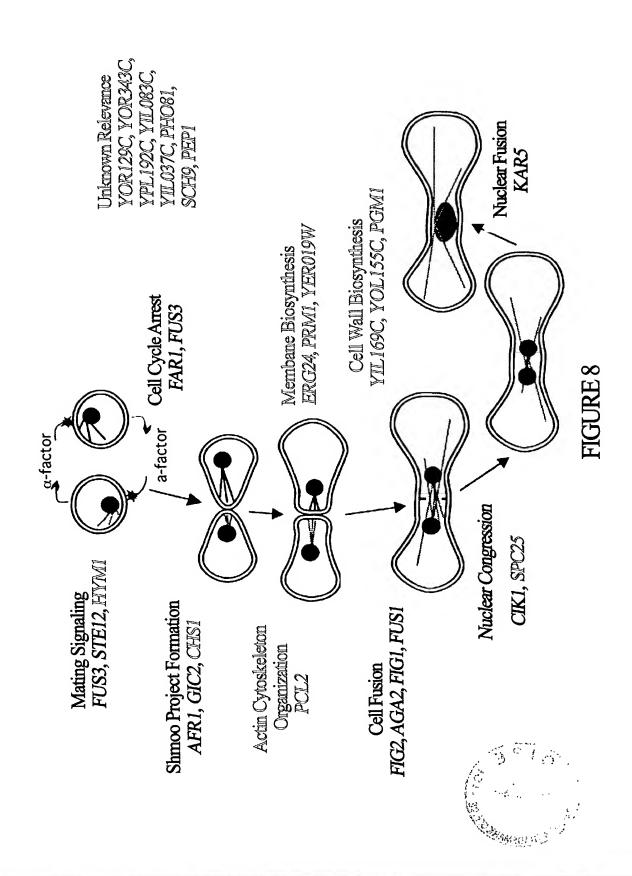
App No.: 10/032,281 # # ### Title: Genome-Wide Location and Function... inspession objects

John Wyrick, et al. Inventors:



App No.: 10/032,281 Title: Genome-Wide Location and Function...

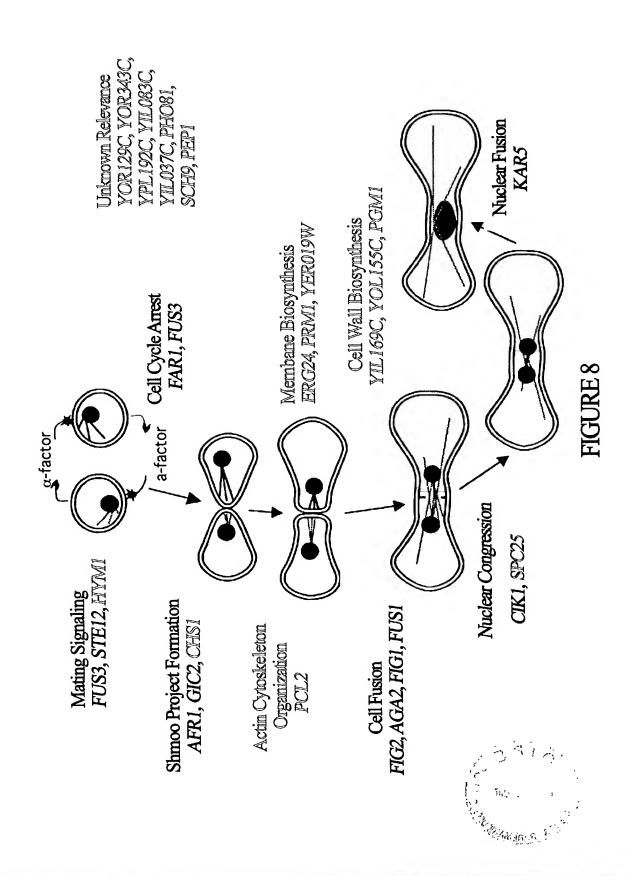
Inventors: John Wyrick, et al.

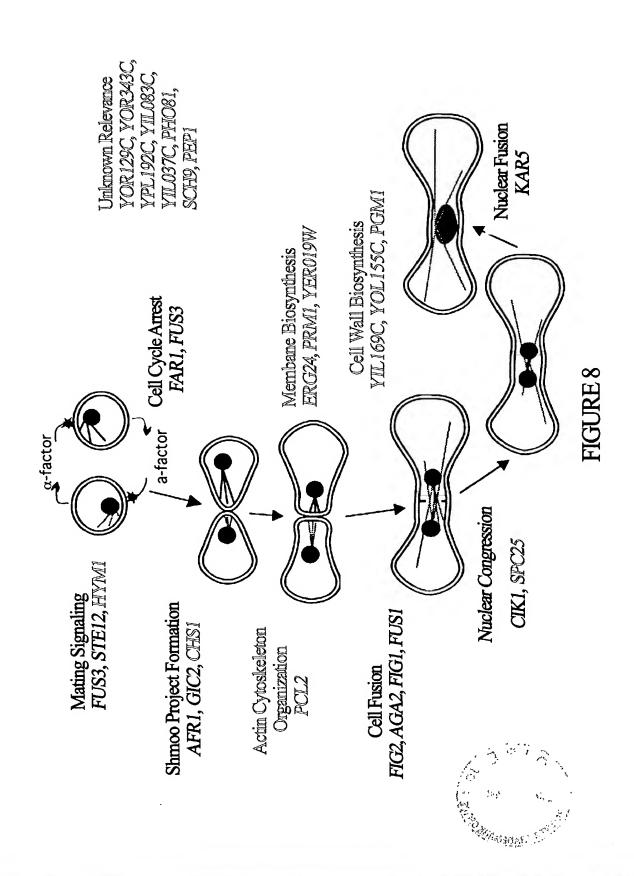


App No.: 10/032,281

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.





Inventors:

John Wyrick, et al.

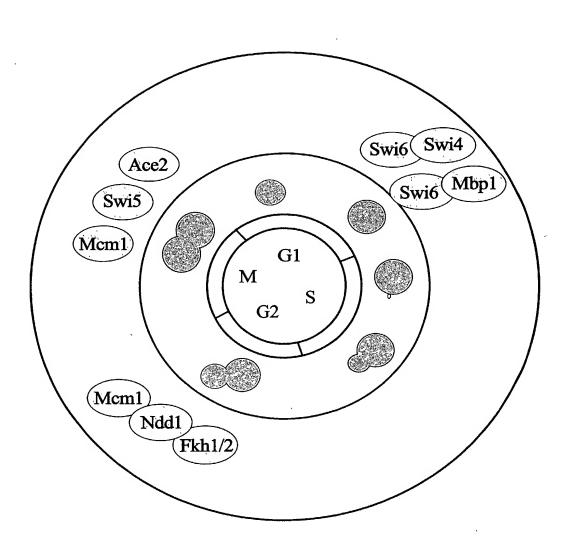


FIGURE 9A



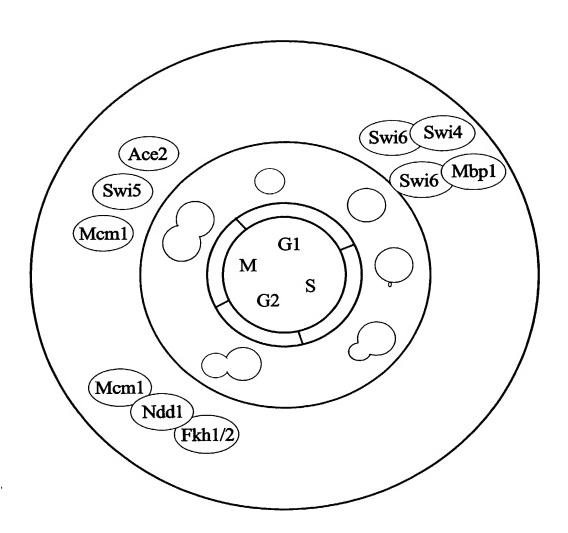


FIGURE 9A



App No.: 10/032,281

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

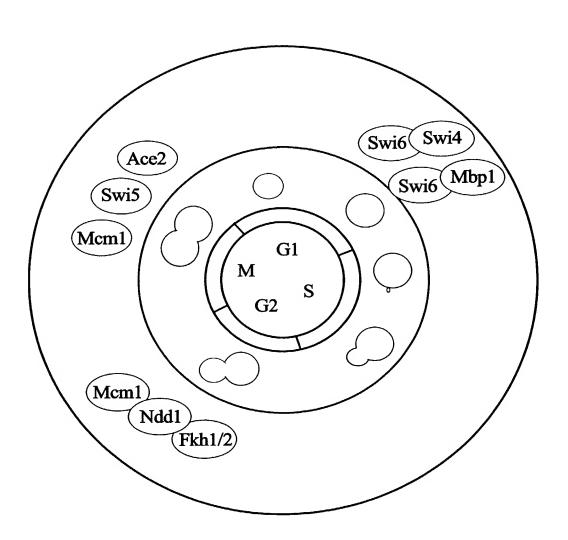


FIGURE 9A



App No.: 10/032,281 App No.: 10/032,281 App No.: Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

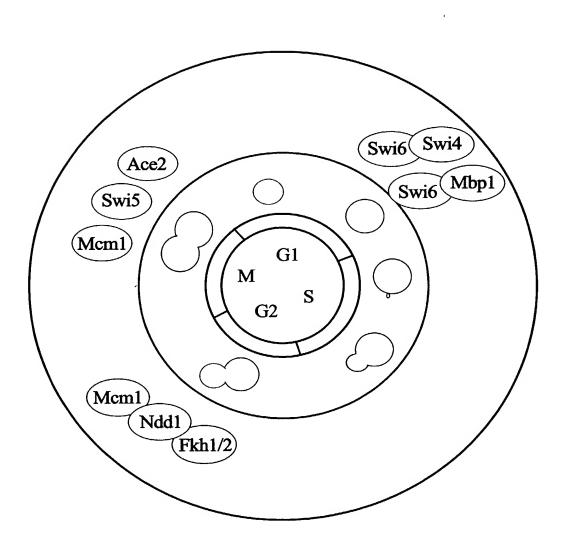


FIGURE 9A



App No.:

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Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.

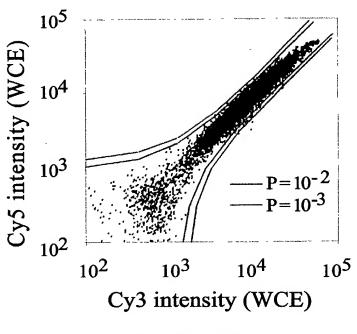
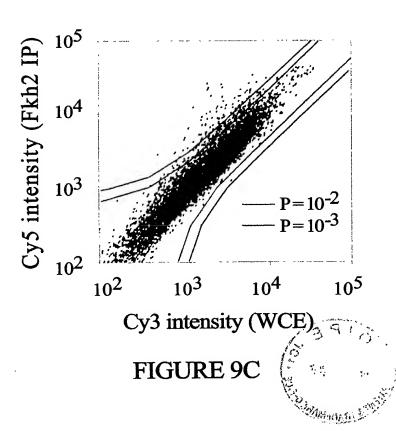


FIGURE 9B



Inventors: John Wyrick, et al.

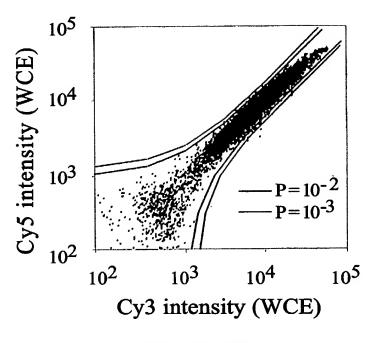


FIGURE 9B

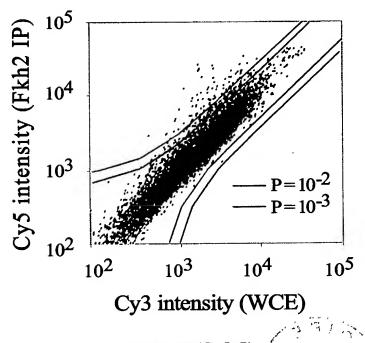


FIGURE 9C

App No.: 10/032,281 LINE Senome-Wide Location and Function...

John Wyrick, et al. Inventors:

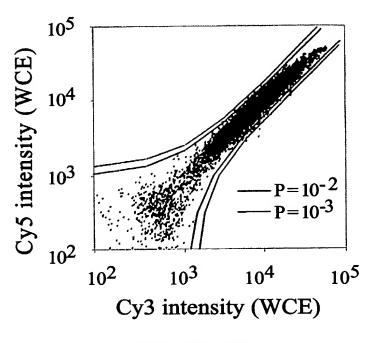


FIGURE 9B

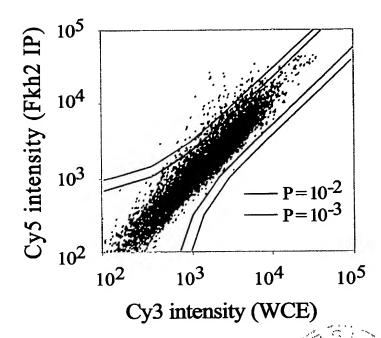
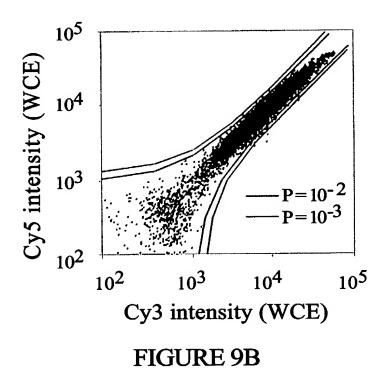


FIGURE 9C

App No.: 10/032,281 Title: Genome-Wide Location and Function... App No.: 10/032,281

John Wyrick, et al. Inventors:



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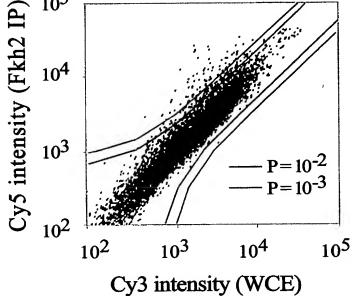
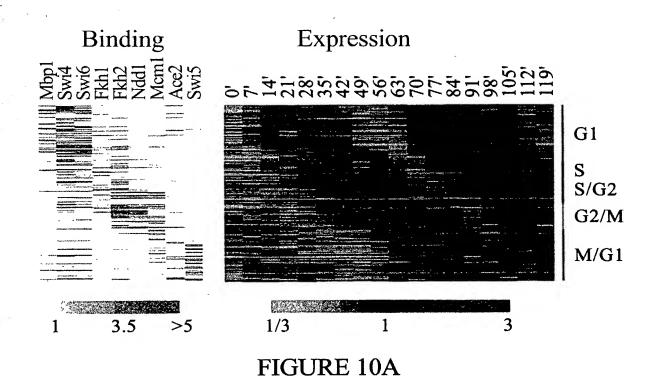


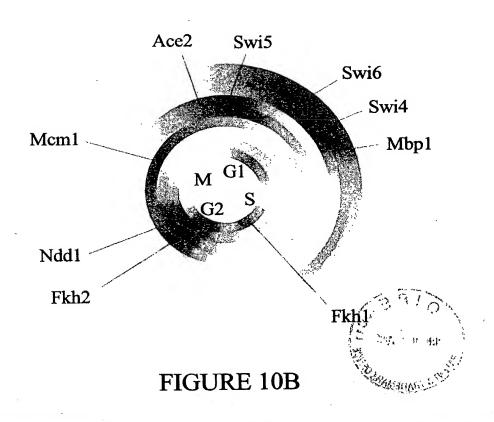
FIGURE 9C

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Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

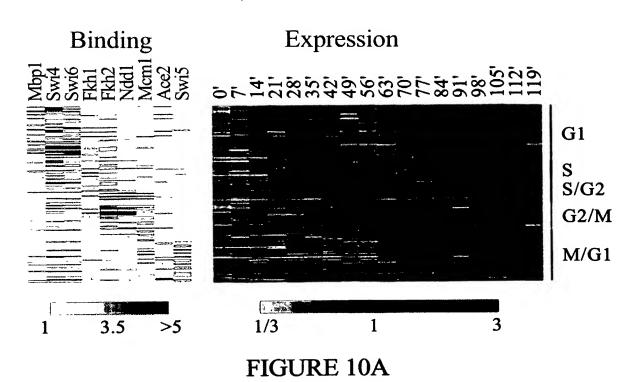


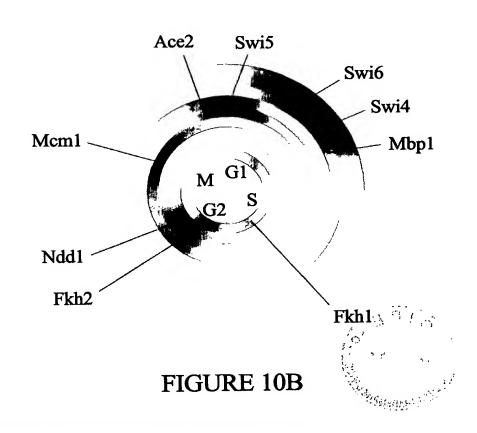


App No.: 10/032,281 2 10/03-2-2-1 10/032,281

Title: Genome-Wide Location and Function...

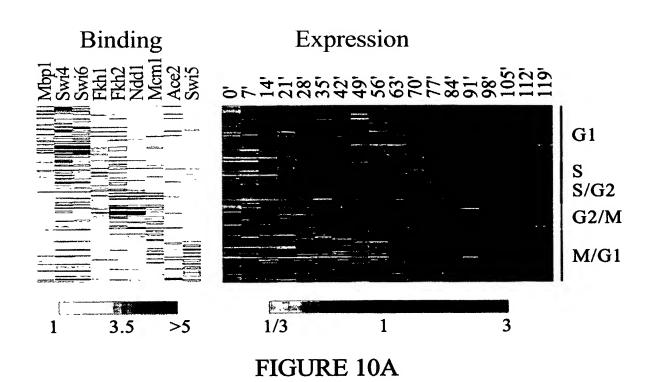
Inventors: John Wyrick, et al.

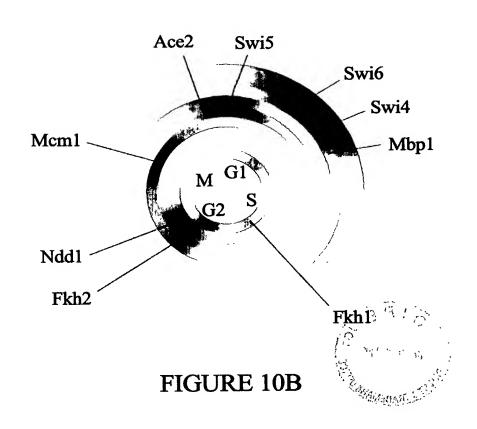




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John Wyrick, et al. Inventors:





App No.:

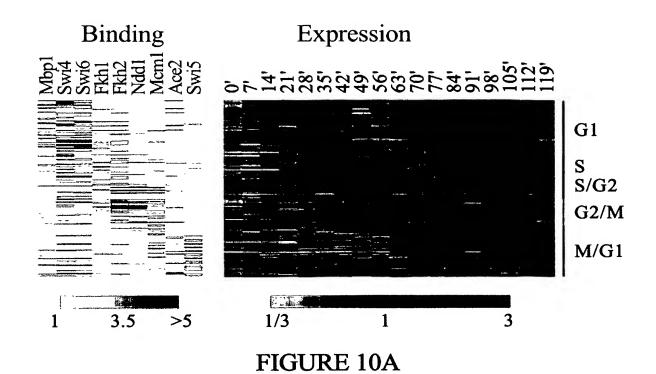
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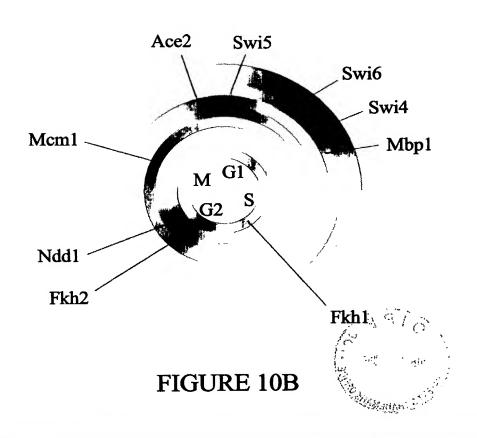
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Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.





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Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.

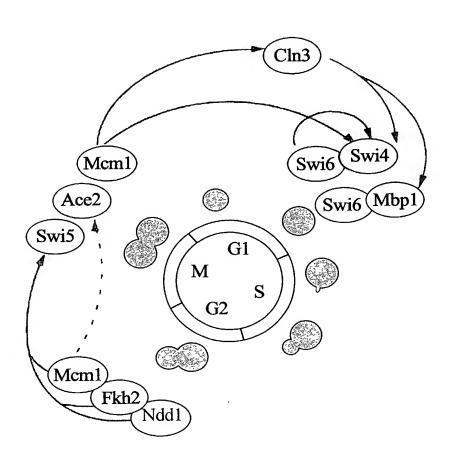


FIGURE 11A



and spata lososom App No.: 10/032,281 App No.: 10/032,281 App No.: Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

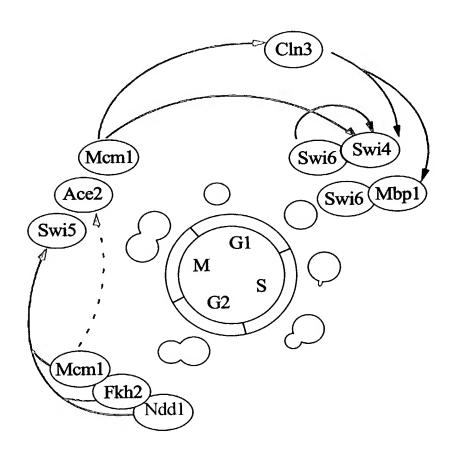


FIGURE 11A



App No.:

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Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

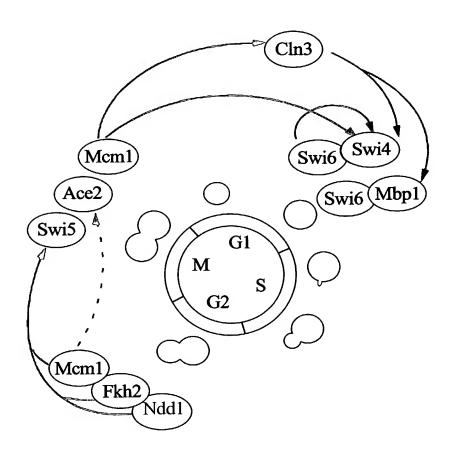


FIGURE 11A



App No.:

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Title: Genome-Wide Location and Function...

Inventors:

John Wyrick, et al.

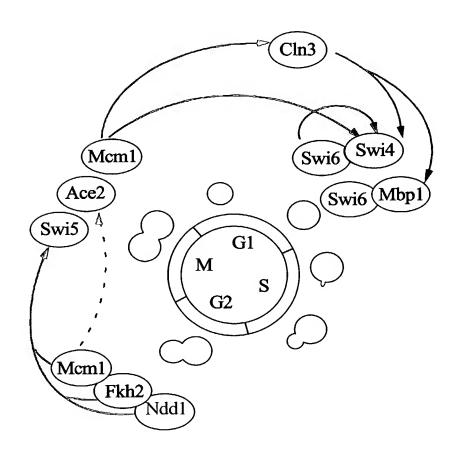


FIGURE 11A



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Inventors:

John Wyrick, et al.

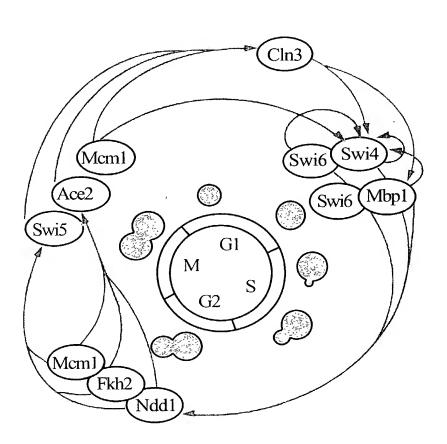


FIGURE 11B



Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

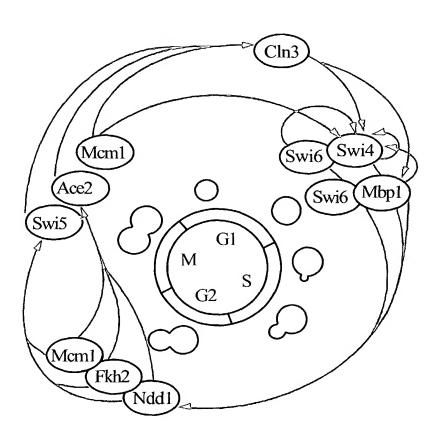


FIGURE 11B



App No.: 10/032,281 .1999 SECTED AUGUETE

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

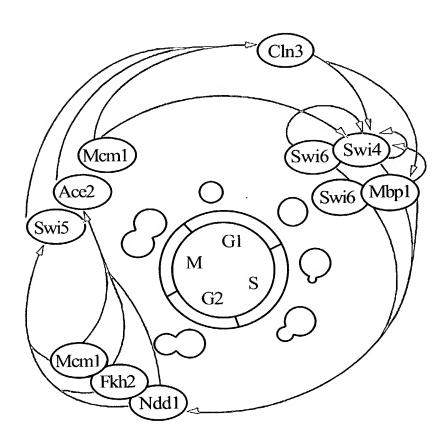


FIGURE 11B



App No.: 10/032,281 LIMIT Title: Genome-Wide Location and Function... LIMBERT BALLUSTER

John Wyrick, et al. Inventors:

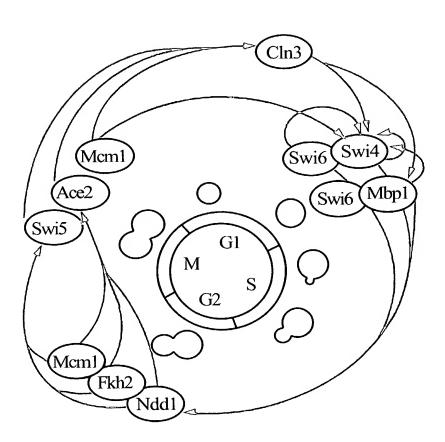


FIGURE 11B



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App No.: 10/032,281 # # # # # Title: Genome-Wide Location and Function...

Inventors:

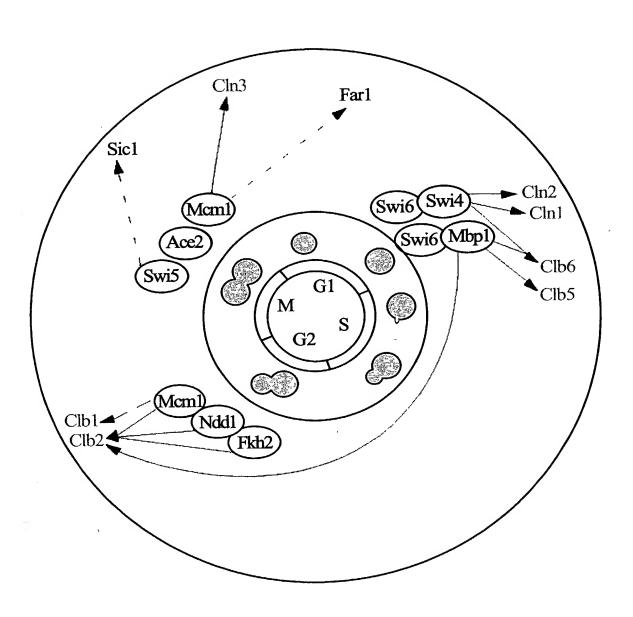


FIGURE 12A



ourseast of the perce App No.: 10/032,281 Application and Function... 10/032,281

John Wyrick, et al. Inventors:

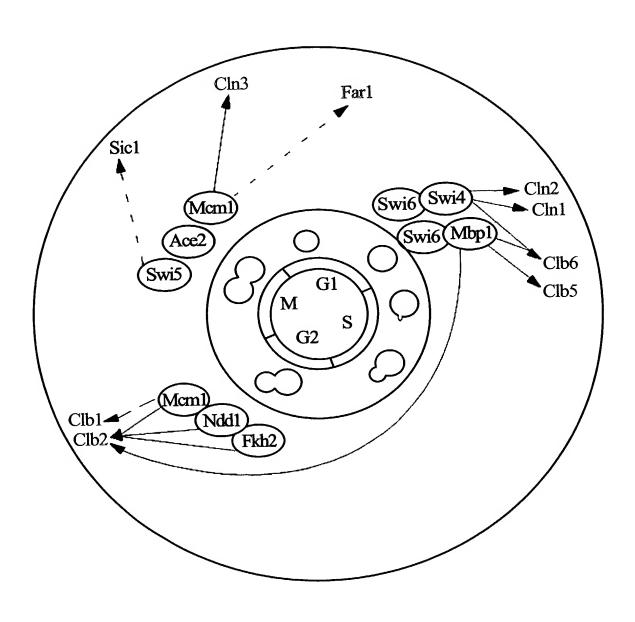


FIGURE 12A

Inventors:

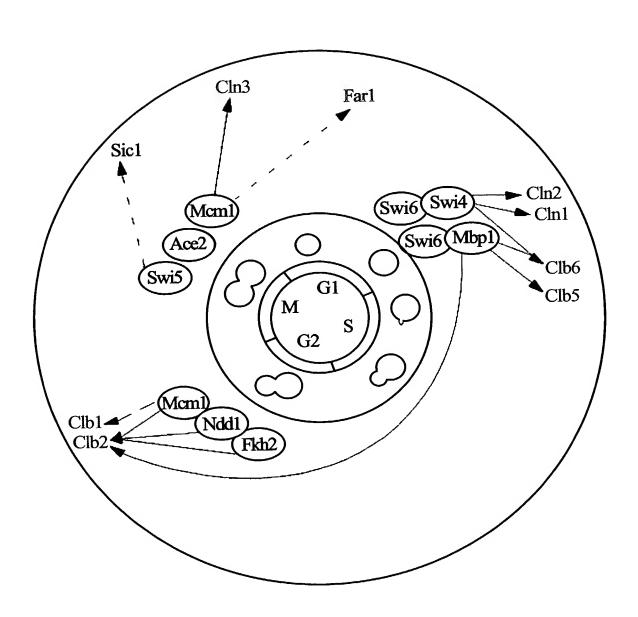


FIGURE 12A



John Wyrick, et al. Inventors:

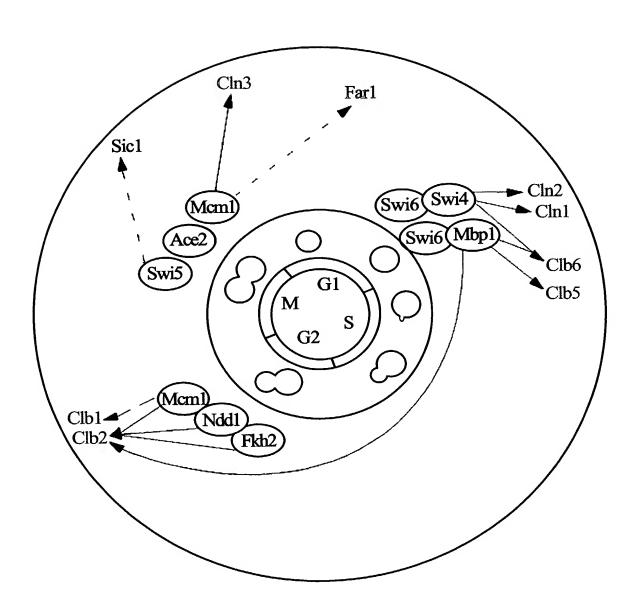


FIGURE 12A



App No.: 10/032,281 10/032 Title: Genome-Wide Location and Function...

Inventors:

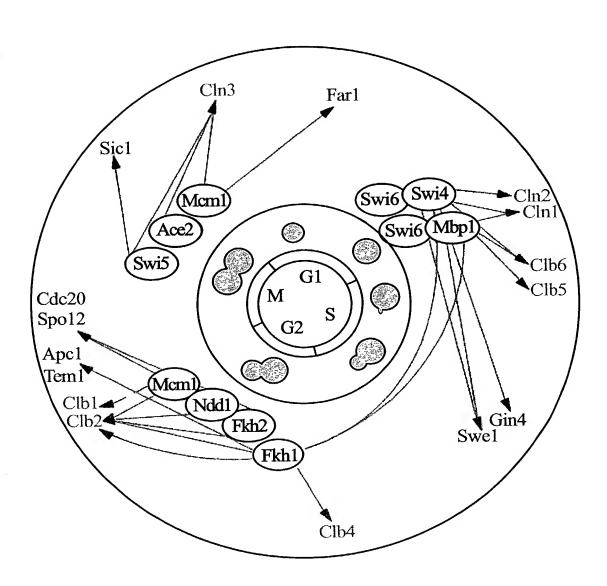
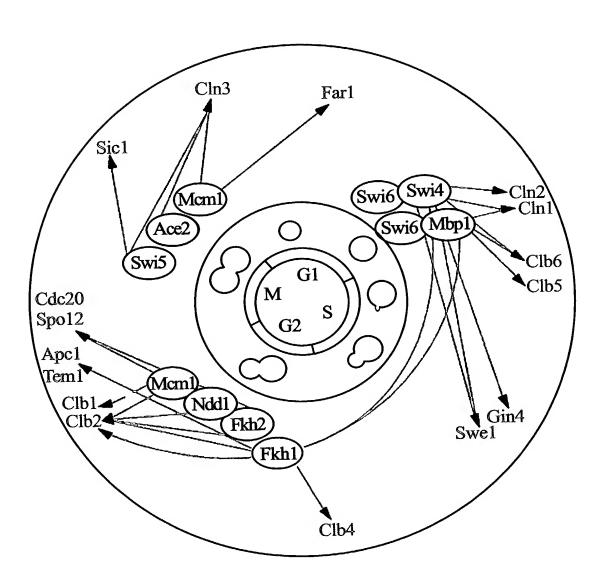


FIGURE 12B



App No.: 10/032,281 Title: Genome-Wide Location and Function...

John Wyrick, et al. Inventors:







App No.: 10/032,281 1101222221 12612

Title: Genome-Wide Location and Function...

Inventors: John Wyrick, et al.

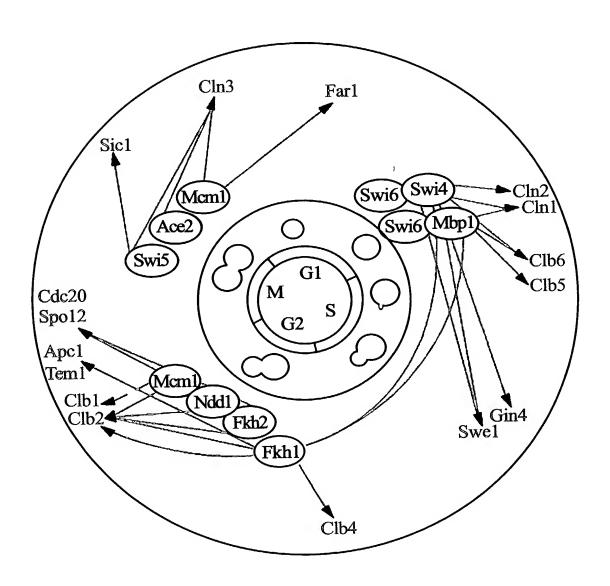


FIGURE 12B

Inventors:

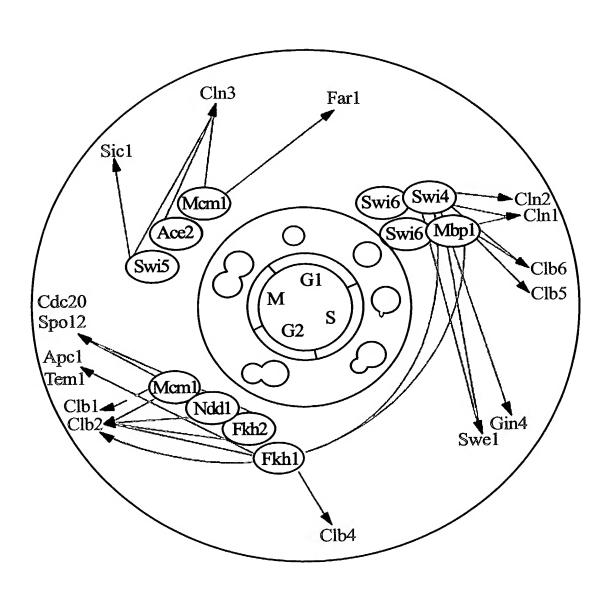
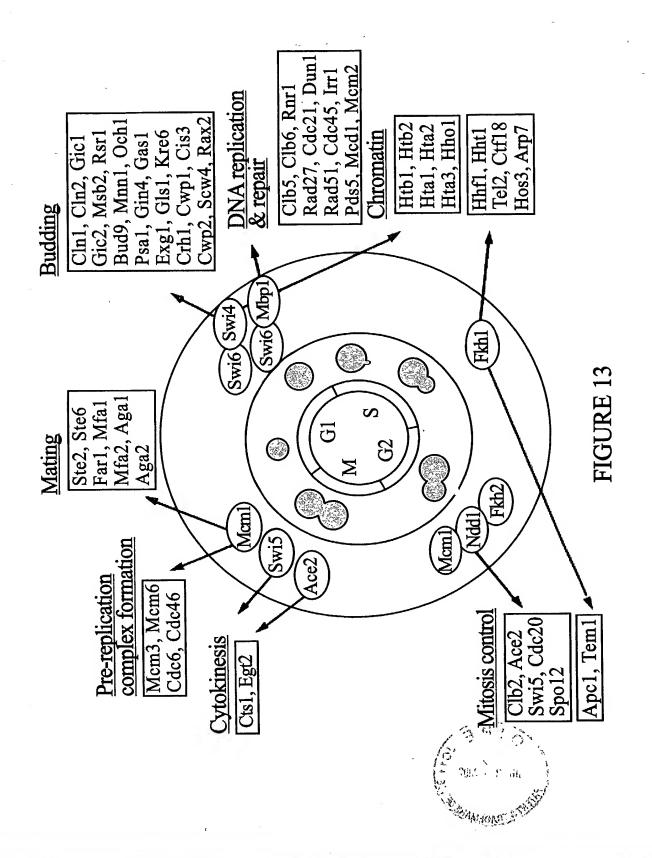


FIGURE 12B

App No.: 10/032,281 LICE CELLOSCE
Title: Genome-Wide Location and Function...

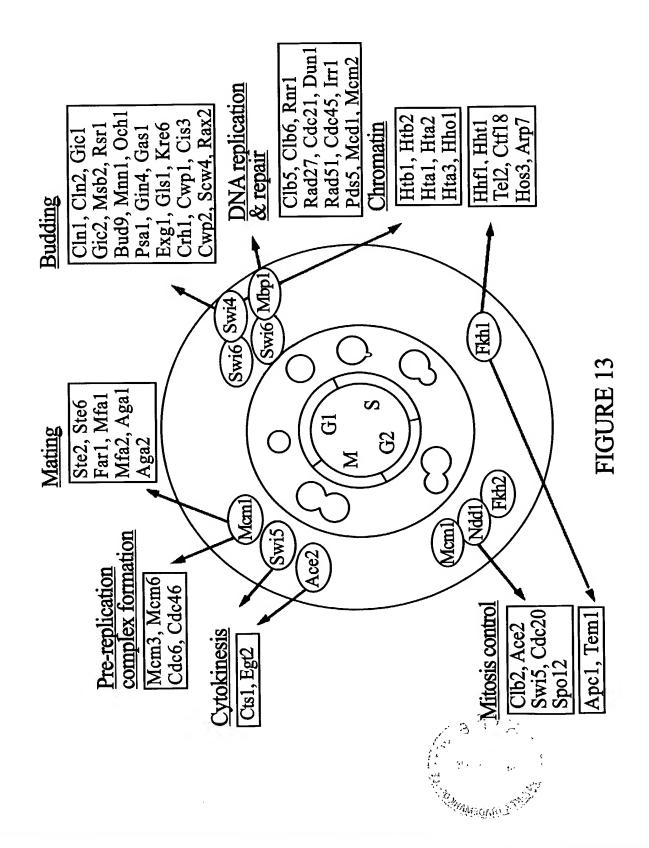
Inventors:



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App No.: 10/032,281 4 FIGURE Title: Genome-Wide Location and Function...

John Wyrick, et al. Inventors:

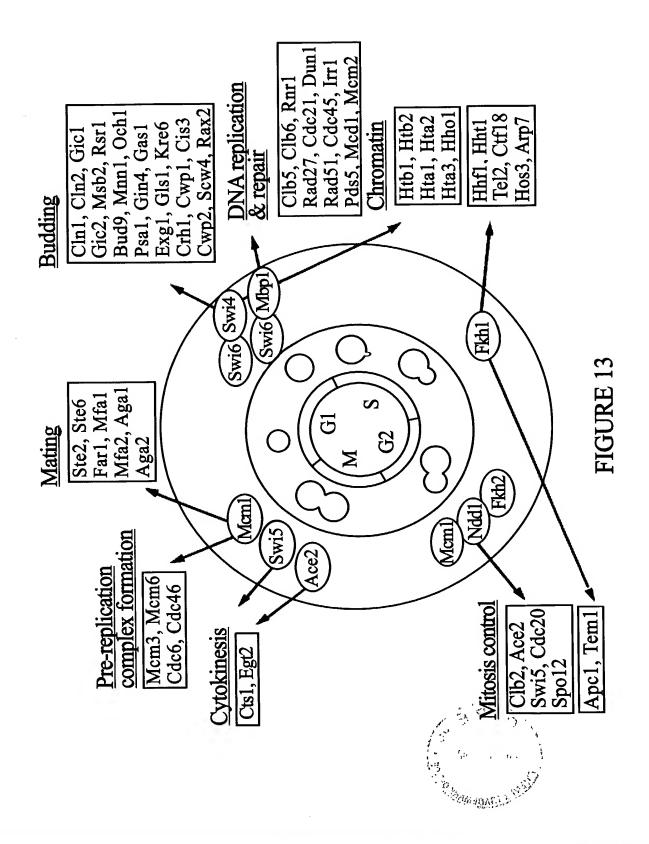


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App No.: 10/032,281 LILLER Title: Genome-Wide Location and Function...

Inventors:



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Inventors: John Wyrick, et al.

